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### The Press and the Profession

Health, when all is well, is taken for granted, but when it is absent the means of its restoration makes news, and the more sensational the circumstances appear to be the better news value the story has -- and the greater capacity it may have for doing harm. The dark sea of uncertainty surrounding those phenomena of health and disease of which man still knows so little is safer than the beacon of false hope that may lure thousands of sufferers toward still uncharted channels. A ship is safer when well navigated on the surface of the unplumbed depths than when it is steered by lights that mark no harbor entrance.

This great residual ignorance is more often now than formerly admitted by the physician, who has grown in confidence as his real knowledge has increased. It is unfortunately misinterpreted by the public, which continues to give credence to the long shot -- to place an inflationary value on the infinitesimal chance that the "lone wolf," the crackpot or the charlatan may have come upon the ultimate secret of therapeusis.

If the doctors really know so little, with their fussy rituals of examination and appraisal and their pompous etiquette, is there not a good chance that the medicine man with his assurance, his testimonials and his guarantee of cure may have found the true elixir of life?

Perhaps the closest danger, however, lies not in the metallic tractor, the tar water with its multiple virtues, or the universal extract, but in the premature disclosure of that honest effort to help mankind that may yet die a-borning. Too often the excited discoverer himself, eager that his early efforts should be quickly recognized, gives out information that has not yet been properly presented and thoroughly examined before the bar of medical opinion; too often the reporter, seeing only the sensation that his words may cause, types out a story that brings to many false hope as a preliminary to still deeper despair.

Conservatism and a regard for the rights of the public in the matter of news are not irreconcilable. Honest medical reporting is becoming a specialty, and many journalists are clearing their stories through authoritative sources in order to publish only the medical news that's fit to print.

Slowly the truth is coming to prevail, as the admonition of the old consultant to his overconfident colleague becomes increasingly appreciated -- "It may be a fine thing to tell the truth, but first be ----- sure that it is the truth." (Editorial, New England M. J., 26 July '51)

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### Bites and Stings - Part II

**Snake Bite.** Snake bite is important because (1) the patient is terrified at having been bitten by a snake and (2) some snake bites require immediate treatment which must be properly administered.

The quantity of the poison secreted varies according to the species, age and size of the snake. As a rule, a snake 4 or 5 years old has more poison if it has achieved moderate size. It is stated that the average copperhead in the United States produces from 45 to 60 mg. of venom at a bite, the water moccasin 90 to 150, and the timber rattler 60 to 90. Immediately after hibernation, some Florida and Texas rattlers have yielded as much as 800 mg. of venom at a single artificial extraction.

The copperhead and the water moccasin, to some extent, give rise to a severe reaction immediately after the bite. These bites are followed by severe pain at the site; for 15 to 20 minutes after the bite, little will be seen except 2 puncture marks in the skin, with perhaps slight blanching and a little edema. The patient will complain of a severe burning pain which increases tremendously and usually requires opiates. The edema spreads rapidly and if treatment is not given within 20 to 40 minutes, there is glandular swelling, serosanguineous infiltration under the skin, development of ecchymoses and later hemorrhages at the site of the bite. General symptoms appear later as the venom acts especially upon the protein of the red cells and blood coagulation. Then the patient begins to develop a parched throat, thirst, congestion and hemorrhages through all the mucosae and even the skin.

Rattler bites cause severe local pain, hemorrhage with edema and copperish-brown discoloration and have a tendency to cause nerve tissue damage. These bites are more apt to be followed by gangrene and the general symptoms become marked almost immediately. The most important systemic reaction is prostration, with cold perspiration, nausea, vomiting and occasional diarrhea. The pulse is weak and fast, shortness of breath develops with repeated vasomotor collapse until death occurs.

The Antivenin Institute estimates that there are 2,000 to 3,000 cases of snake bite per year, with a death rate of 10 to 35 percent.

The author stresses the use of Antivenin given subcutaneously, intramuscularly or intravenously and following the instructions offered by the Antivenin Institute.

Black Widow Spider Bites. The spider bite usually presents a diagnostic problem, but the use of intravenous calcium, either gluconate or lactate, has given not only a mode of therapy, but also a diagnostic procedure believed to be reliable.

The web of the black widow spider is easily recognized by the coarse thread spun irregularly in every direction. When seen, the glossy, black round abdomen of the female spider resembles a highly-polished pearl and is easily recognizable by the bright red hour-glass on the ventral surface. The first indication of a bite is usually a sharp needle-like sting, followed by a burning sensation which becomes a dull aching pain, and spreads rapidly and increases in severity as the venom spreads by lymphatic absorption. It is estimated that the venom of the black widow spider is 15 times more potent than that of a rattlesnake.

About 30 to 60 minutes after the bite, the patient complains of the dull, aching pain becoming very intense and involving the chest, abdominal and

lumbar muscles, often with the legs cramping as severely. The pulse rate, which at first is slow and weak, becomes more rapid, particularly as the blood pressure falls. The patient is restless, weak and fearful. The muscular spasms and jerkings remind the physician of tetany due to lack of calcium.

The use of calcium intravenously is a diagnostic as well as a therapeutic measure. If the cramping sensations are immediately relieved, the author considers this measure as diagnostic and proceeds to the administration of the specific antivenin while the patient is comfortable. None of the abdominal emergencies will respond to intravenous calcium; therefore there is little risk in missing an abdominal emergency if calcium as a diagnostic measure is used. Latrodectus mactans antivenin has been available for 10 years; it is not generally familiar to physicians.

Other Insect Bites and Stings. Usually, other bites and stings give rise to local reactions of redness, swelling and itching. Bee stings respond to mild alkaline applications, such as soda or aromatic spirits of ammonia. Hornets, wasps, yellow jackets and bumblebees, in addition to severe local reactions, may give rise to alarming general reactions, often with collapse. Treatment, in addition to local measures, is intravenous calcium, 0.2 cc. per Kg. of body weight, up to 20 to 30 cc., accompanied by Benadryl, 5 mg. per Kg. immediately and repeated in 2 hours if indicated. (GP, July '51, D. G. Miller, Jr.)

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### The Surgical Approach to Glaucoma

Though at first little understood, glaucoma has been under observation by ophthalmologists for over two centuries. During the early period of this study the disease was generally thought to be due to a disturbance of the sympathetic nervous system. Such an opinion, after many recessions, is still occasionally brought forward by leading ophthalmologists. Thus far, nothing has been accomplished by neurosurgical procedures for relief of the condition, although for many years, the sympathetic nervous system was attacked by way of the cervical sympathetic nerve trunk and the upper and middle cervical sympathetic ganglia, with unfavorable results.

Regardless of the ineffective surgery of the past, it is a well recognized fact that, although the cause of glaucoma is not known, surgeons at least are familiar with the anatomic changes found associated with the disease. These usually consist of one or more of the following changes: (1) enlargement of the crystalline lens owing to its continuous growth, which normally begins in early life; (2) crowding forward of the iris by this enlargement and consequent narrowing of the iris angle and (3) cutting off of the normal drainage of the eye by a crowded iris angle, with consequent encroachment upon the canal of Schlemm, the spaces of Fontana and other lesser avenues of escape from the eye of the intraocular fluids. An attack of glaucoma may then be brought about as a mechanical response to these changes by the sympathetic nervous system in patients subject to attacks of grief, worry or shock.

Should all other measures fail to overcome the condition, operation is indicated, with a view to reestablishing normal drainage of intraocular fluids. The steps to be considered for the relief of glaucoma are as follows: 1. In cases of acute inflammatory glaucoma, attempts should be directed toward freeing the iris angle and relieving pressure upon the canal of Schlemm by a broad iridectomy done after the manner of Von Graefe, not in the perfunctory manner now too often practiced. 2. In cases of low grade glaucoma with slowly narrowing fields, attempts should be made to establish new avenues of drainage by way of the suprachoroidal space. This is often accomplished by cyclo-dialysis. By this procedure the ciliary body is separated from its attachment and a breach is made through the pectinate ligament, thus opening an avenue for drainage between the anterior chamber and the suprachoroidal space. 3. A method often resorted to but usually only when other operations have failed consists in creating new avenues for the escape of pent-up fluids by scleral trephining or by iridencleisis. These procedures have undoubtedly brought good results in many instances, although in reviewing the literature one observes that complications attending them have been numerous.

In selecting an operation for glaucoma, the surgeon should be entirely familiar with current knowledge regarding fields, but as no two cases are alike he has great latitude in choosing his operation. Every glaucoma patient becomes a grave responsibility, and the surgeon must be conscious of this and plan his management carefully. With the tension and the fields as indices to the choice of operation and by adhering to sound surgical principles based on a thorough knowledge of the mechanics of the disease, he is on the only ground he may occupy in the treatment of this most aberrant of all surgical eye diseases. (J. Internat. Coll. Surgeons, July '51, D. T. Atkinson)

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#### Role of Terramycin in Ophthalmology

With the discovery of new antibiotic substances the treatment of ocular diseases has changed considerably during recent years. One of the new broad bacterial spectrum antibiotics is terramycin. Although numerous articles on its clinical effectiveness in a wide variety of infections have appeared in the literature, up to the time of this report there have been none on the effectiveness of terramycin in the treatment of ocular infections. Accordingly, the authors compared this antibiotic with previously reported substances to determine its role in ophthalmology.

Terramycin hydrochloride, powdered and in a special ophthalmic borate buffer, and 0.1 percent terramycin hydrochloride in ophthalmic ointment were used in a study of the following properties: (a) solubility of terramycin in various ophthalmic buffer solutions; (b) comparison of stabilities of terramycin and aureomycin at room and refrigerator temperatures; (c) comparative sensitivities of various ophthalmic bacterial pathogens to terramycin, aureomycin, penicillin, chloramphenicol, bacitracin, polymyxin B, streptomycin, gantrisin (3, 4-dimethyl-5-sulfanilamidoisoxazole), sulfacetamide, "propion"

(a preparation of fatty acids and 5 percent sodium propionate) and benzalkonium (zephran) chloride; (d) terramycin protection studies against the herpes simplex virus with drug toxicity controls in mice; (e) penetration of terramycin and aureomycin into the aqueous humor in rabbit eyes, and (f) clinical observations on terramycin in the treatment of conjunctivitis and corneal ulceration.

The following conclusions were reached, on the basis of these studies:

1. Ophthalmic solutions of terramycin hydrochloride in special borate buffer, pH 8.175, appeared to be more stable than aureomycin in the same solution, and remained stable for 5 days when stored at room temperature. No change in drug effectiveness occurred after 50 days of refrigeration.

2. In *in vitro* experiments, terramycin compared favorably with the other antibiotic and chemotherapeutic agents studied. Individual comparative studies indicated that penicillin was more effective than terramycin, streptomycin, aureomycin or chloramphenicol (chloromycetin), which must be classed as being equally effective against the hemolytic Staphylococcus aureus strains studied. Moreover, the above agents appeared to be more effective than bacitracin, polymyxin B, gantrisin, sulfacetamide, "propion" (a propionate compound) or benzalkonium (zephran) against the same organism. Penicillin was also the only drug superior to terramycin in the studies with alpha hemolytic Streptococcus, Diplococcus pneumoniae and other miscellaneous gram-positive organisms. Chloramphenicol and streptomycin appeared, in general, to be more effective than terramycin and the other drugs against the gram-negative organisms tested.

3. Terramycin failed to protect mice inoculated with the virus of herpes simplex.

4. Terramycin and aureomycin penetrated into the rabbit aqueous humor after a corneal bath only when the corneal epithelium was abraded. Penetration approximated 28 micrograms per cc. for terramycin and 8 micrograms per cc. for aureomycin under the conditions used. After intravenous administration, 3 micrograms of terramycin per cc. appeared to be present in the aqueous, whereas no penetration of aureomycin could be detected. In terms of *in vitro* bacterial sensitivities, it would appear that adequate aqueous concentrations of terramycin can be expected clinically after local instillation in cases of corneal ulceration in which the epithelial barrier is not present.

5. Clinically, terramycin was well tolerated and effective in the treatment of conjunctivitis and corneal ulcerations with a bacterial origin. It was not effective in the treatment of acute follicular conjunctivitis, type Béal, and dendritic keratitis.

6. One-tenth percent terramycin hydrochloride ophthalmic ointment was effectively used prior to operation for the prophylactic removal of bacteria from the conjunctival sac. (A. M. A. Arch. Ophth., July '51, N. G. Douvas, R. M. Featherstone & A. E. Braley)

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Delays in the Diagnosis of Tuberculosis from the Incautious Use of Antibiotics

It was recently noted that case histories of newly admitted patients to a southern California sanatorium included mention of the use of penicillin and other drugs for supposedly non-tuberculous conditions. This often happened without any attempt to exclude or make a diagnosis of tuberculosis.

It was decided to re-check all such information for greater accuracy by questioning the patients. The results were amazing. Twenty patients in the 50 bed sanatorium, or 40 percent of those in residence on 15 February 1951 had suffered to some degree from the "blind" use of chemotherapy!

The author points out that when antibiotic drugs are freely used in patients with respiratory symptoms, some patients with pulmonary tuberculosis will necessarily be included, particularly if x-ray and bacterial studies are not made. These unrecognized, undiagnosed patients may progress to a more serious status, and will present a hazard to family members or other associates with whom they are in contact. These things happened among the cases presented. All of the patients were infectious at the time of admission to the sanatorium and some of them had become almost untreatable because of the delay and false security given by the use of the antibiotics.

The physician should be clinically alert for tuberculosis, should use whatever diagnostic measures are needed to exclude it and should limit chemotherapy to illnesses for which the drugs are useful. The help of a chest specialist should be obtained whenever needed. Estrogens, "cold shots," adrenal corticoid substances, iron and vitamin injections ought not to be prescribed without an assurance of their need or the absence of tuberculosis. (All of these were used in the cases in this series.) Free or low-cost x-ray service is available to patients who are unable to pay for more. The use of the fluoroscope is also helpful.

The chest specialist and sanatorium physician ought to instruct the patient in his future conduct, in the implications of his disease and in the need for eternal caution, care and checkups. In this series there were 8 patients with known but forgotten cases of tuberculosis who were treated with antibiotics for respiratory illnesses during periods of obvious reactivation of the tuberculosis.

Ten years ago, a few thoughtful physicians predicted that casual use of the sulfonamides might obscure or delay diagnosis of tuberculosis. The advent of penicillin has confirmed this possibility, and patients with neoplasms or tuberculosis come to light at long last when the drugs have "failed." The danger is increased with the use of aureomycin, chloromycetin, terramycin and others yet untried.

In the cases reported, the duration of delay between onset of symptoms and diagnosis of tuberculosis might have been even longer than the range of 2 weeks to possibly 6 years reported, had it not been for the coincidence of a huge chest x-ray survey which was under way in southern California during 8 months of the year previous to this report. This survey was a factor in the diagnosis of 46 percent of all cases presently in the sanatorium. The need for constant and in-

expensive x-ray stations for case-finding is apparent. (Arizona Med., July '51, W. H. Oatway, Jr.). (Note: The report on which this article is based was given the Annual Award of the California Trudeau Society, April, 1951.)

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### Surgical Error of Gastroileostomy

If an anastomosis between the stomach and ileum is made through a technical error, a rather typical syndrome develops. The symptoms of a patient with a gastroileostomy may be attributed falsely to a vagotomy performed at the same time. With the increased frequency of employing vagotomy and gastroenterostomy as a treatment for duodenal ulcer, more gastroileostomies are likely to result. Because the diagnosis of a gastroileostomy may not be made for a great length of time, it is believed that every physician should be familiar with the clinical manifestations and roentgen ray observations.

A review of the literature indicates that the rare surgical error of gastroileostomy was reported first by Martin and Carroll in 1915. Since the first report an additional 25 cases have been presented in detail.

It is essential that a patient with a gastroileostomy be diagnosed early. If the diagnosis is not made, these patients with gastroileostomy may decline and become chronic invalids. On the other hand when correctly diagnosed, the gastroileostomy may be corrected, with a resultant rapid response, gain in weight and noticeable clinical improvement.

Gastroileostomy without gastric resection is usually a less serious error than when a resection has been performed. In the former condition the pylorus may be patent and a major portion of the food may pass through the normal route. Thus the patient may have few if any symptoms. Patients who develop pyloric obstruction and have gastroileostomy undergo a rapidly deteriorating course from malnutrition. The severity of symptoms depends in large measure on how much of the food is passing through the gastroileostomy, short-circuiting the jejunum and passing through the pylorus.

Within the past 10 years 6 patients with gastroileostomies were diagnosed and treated at the Cleveland Clinic. The discussion is based both on these patients and on those reported in the literature.

The most constant finding in the patient with gastroileostomy was weight loss which was present in 5 of 6 in the present series and in 26 of 32 patients in the combined series. The nutritional status of the patient and the amount of weight loss depended less on the level of ileac anastomosis than on the relative amount of gastric chyme passing through the pylorus and through the gastroileal stoma.

Pain is a common symptom and was present in 4 of the authors' patients and in 21 in the combined series. In some the pain was relieved by food or vomiting; often it was cramp-like and colicky. In the presence of recognized ileac ulcer the pain was usually severe and referred to the perumbilical area or right lower quadrant. Not every patient with pain demonstrated a marginal

ulcer at operation. The relief from pain is inconsistent but has been recorded as being ameliorated by passing flatus or stool, taking enemas or vomiting.

In any patient manifesting immediate postoperative lienteric diarrhea following gastric surgery in whom some form of anastomosis was done, gastroileostomy should be suspected. The stools of these patients generally contain no blood, pus or mucus but do contain easily recognizable food. Eighteen patients in the combined series had diarrhea. One of the authors' and 2 patients in cases previously reported complained of constipation. The presence or absence of diarrhea probably also depends on how much of the gastric chyme is passing through the gastroileal stoma and how much is passing through the pylorus.

Vomiting was a symptom in 17 of the 32 patients and was of a fecal nature in 6. Moreover, these patients frequently complained of eructation with a fecal odor. Fecal vomiting is probably caused by regurgitation of ileac contents into the stomach. Ileac ulceration present in 8 of 32 patients appears to be produced by the same mechanism as other marginal or stomal ulcers. Hemorrhage was associated in 5 cases.

At least 3 mechanical possibilities exist in the production of symptoms of gastroileostomy: 1. The clinical features of lienteric diarrhea and malnutrition may be expected when food is rapidly dumped into the ileum through a patent stoma; when the stoma is near the ileocecal valve, the food rapidly empties into the colon without adequate digestion or absorption. Diarrhea with undigested food appears in the stools and the patient becomes severely malnourished.

2. The stoma may be so located that when the stomach is full, spasm, narrowness of the opening or kinking of the ileum may prevent any significant amount of food leaving the stomach through the gastroileostomy. The major portion of the food passes through the patent pylorus. When the chyme has completed the jejunio-ileac circuit, it passes into the stoma and may re-enter the stomach producing nausea, vomiting and subsequent malnutrition and weight loss. This mechanism explains the fecal-type of vomiting apparent in some of these patients.

3. There may be a combination of the first two mechanisms with part of the food leaving the stomach through both exits and the food which traverses the duodenum and jejunum partially refilling the stomach.

Preoperative preparation is stressed when the patient is in poor condition, especially if the serum proteins are low and severe weight loss and malnutrition are present. The usual measures of high protein, high caloric and high vitamin diets are recommended and can be supplemented by intravenous glucose, electrolytes, plasma and blood when considered advisable. Despite profound weight loss and malnutrition, 2 of the authors' patients tolerated definitive surgery without difficulty.

Two principal problems exist in the surgical treatment of gastroileostomy. The first is the disconnection of the gastroileostomy and restoration of the normal continuity of the ileum. This usually can be accomplished by closing the ileac defects by any of the standard surgical methods or by resection and anastomosis of this segment of ileum.

The second problem is the treatment of the patient's original disease which in the majority of cases reported has been chronic duodenal ulcer. Vagotomy combined with gastrojejunostomy is believed to be the treatment of choice in most instances of chronic duodenal ulcer requiring surgery. All of the patients in this series underwent one or both of these procedures if evidence of active ulceration was present. Vagotomy can be performed readily at the time the gastroileostomy is dismantled and should precede the operation on the bowel to avoid contamination of the upper abdomen.

In the 6 cases presented there was no operative mortality. The patients have gained weight following surgery and have had no recurrence of symptoms. (Am. J. Surg., August '51, A. G. Michels, C. H. Brown & G. Crile, Jr.)

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#### Electrophrenic Respiration

The intermittent electrical stimulation of one phrenic nerve through the intact skin is capable of producing effective and readily controlled artificial respiration (electrophrenic respiration, or EPR). Previous studies revealed the following: 1. Tidal volume is proportional to the peak voltage applied. 2. The respiratory rate and duration of inspiration can be readily varied within satisfactory limits. 3. All spontaneous respiratory activity ceases immediately after the onset of electrophrenic respiration and, if originally present, returns when electrophrenic respiration is discontinued. 4. The lung on the unstimulated side is ventilated almost as much as the lung on the side of the stimulated phrenic nerve by virtue of mediastinal shift. 5. During hemorrhagic shock or high spinal anesthesia, electrophrenic respiration maintains the circulation at a more satisfactory level than positive pressure breathing, presumably because it is similar to normal respiration and causes breathing by decreasing intrapleural pressure. 6. The reserve of the method is such that it is generally possible to triple the normal resting respiratory minute volume, with the submaximal stimulation of one phrenic nerve in the absence of spontaneous respiration. 7. Because of the ability of electrophrenic respiration to suppress the respiratory center reflexly, it can completely inhibit the troublesome respiratory irregularities of patients with bulbar poliomyelitis and either maintain adequate ventilation by itself or help adapt the patient to the tank respirator. 8. The nursing care of apneic patients has been found easier if the patient is breathed by means of electrophrenic respiration than if enclosed in a tank-type respirator. 9. It is an effective experimental method for producing pulmonary ventilation without the use of positive pressure.

The main drawbacks of this method to date have been that: (1) patients with both phrenic nerves incapacitated by disease cannot be breathed by electrophrenic respiration; (2) the electrical toxicity to nerve during prolonged periods of stimulation has not yet been thoroughly studied, although work in other laboratories is encouraging in this regard and (3) the emergency application of electrophrenic respiration is of only limited usefulness in the hands of those who have

not become proficient in locating the motor point of the phrenic nerve.

The purpose of this report is to describe the technic by which electrophrenic respiration can be rapidly and effectively applied, and to present data on the time required for initiating artificial respiration.

Effective pulmonary ventilation can be initiated consistently in a short time, in both adults and infants, if the anatomical details of the position of the phrenic nerve are kept in mind and attention given to placing the electrode behind and underneath the lateral margin of the clavicular insertion of the sternocleidomastoid muscle. With the patient in the supine position, the head should face forward and be slightly elevated from the table in order to relax the sternocleidomastoid muscle. While pushing the sternocleidomastoid medially, the index finger wearing the thimble electrode or the pen electrode should face posteriorly, so as to contact the anterior surface of the anterior scalene at the site where the phrenic nerve is located.

It was possible to locate the motor point of the phrenic nerve in 24 volunteers of both sexes. The average "explore" time was 7.4 seconds, with a range of 45 to 2 seconds. In 87 percent, respiration was started in 10 seconds or less.

After proficiency has been achieved in starting artificial respiration with the patient on his back, practice will make it possible to start electrophrenic respiration with the patient in the conventional Schaefer prone pressure position. Drawing the patient's knees up slightly, so as to permit observation of the dia-phragm, is helpful. This is probably the position of preference for patients in whom drainage of the pharynx is desirable, as for example, after drowning.

For long term stimulation (days), the implantation of a polyethylene covered tantalum electrode in the vicinity of the phrenic nerve has been shown to be an effective method. The maintenance of a clear airway is essential. For those situations such as in ambulances, transferring apneic patients to the operating room, areas where direct current is likely to be a problem, and for general field use, a battery or field model electrophrenic respirator can be used.

Since any technic of artificial respiration will be performed more effectively in an emergency situation if the operator has had previous practice with the method, it is the authors' firm opinion that unless the physiological advantages of electrophrenic respiration are considered sufficiently compelling to merit the investment of time for practice, the operator would be best advised to use some other method in an emergency.

Bradycardia has not been observed during electrophrenic respiration, and, since this would inevitably accompany vagal stimulation if it occurred, it seems reasonable to conclude that vagal stimulation has not been produced.

Both before and since studying the series of 24 consecutive subjects, it has occasionally been found that some volunteer has not responded to phrenic nerve stimulation. It is estimated that this occurs about once in each 40 attempts. In such cases, it is not desirable to apply the required threshold amount of current because of increased local cutaneous sensitivity to electrical stimulation. This was the cause of failure in these instances, as is indicated by the fact that the authors have never failed to elicit diaphragmatic breathing in those patients in whom electrophrenic respiration was required as a therapeutic maneuver, except when axonal degeneration of the phrenic nerve was present. However,

an ectopic phrenic nerve may be the cause of failure in these subjects.

Electrophrenic respiration has been used in newborn infants, using the pen type electrode in preference to the thimble electrode. Although special practice with babies is required to become proficient in this group, effective ventilation can be consistently initiated and maintained. (Surg., Gynec., & Obst., August '51, S. J. Sarnoff, L. C. Sarnoff, & J. L. Whittenberger)

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#### Experiences With an Instrument for Punch Biopsy of Synovial Membrane

An instrument has been devised to accomplish biopsy of synovial membrane without requiring the usual operative incision and its attendant disability. This instrument has been used on 130 occasions to remove specimens from 135 joints of 108 patients who ranged in age from 3 to 71 years.

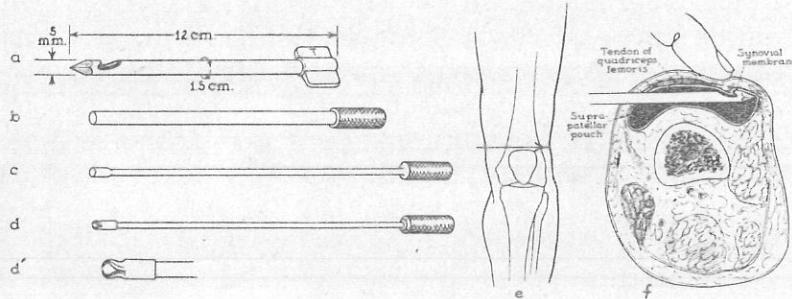


Fig. 1. a-d'. The set for punch biopsy consists of two main and two accessory parts. See description in text; e, diagram illustrating level of cross section diagram (f); f, cross section to show manner in which synovial tissue is engaged in opening of the outer tube. See text.

The punch biopsy set consists of 2 main and 2 accessory parts (Fig. 1 a to d'). There is first a hollow, round stainless steel tube 5 mm. (3/16 inch) in diameter, 12 cm. (4 3/4 inches) in length and 1.5 cm. (9/16 inch) in circumference (Fig. 1a). At one end is a flange handle marked to indicate the top (T). At the other end is a trocar point. Nine millimeters (3/8 inch) from the trocar tip is an ovoid opening with a hooked lip in the end nearest the trocar point. The aperture measures 7 mm. (5/16 inch) long and 2.5 mm. (3/32 inch) deep, occupying slightly more than the half of the diameter of the tube at this point. A hollow tubular knife of the same material closely fits the lumen of the outer tube and has a sharp, cutting rim (Fig. 1b). A stylet fits inside the inner tube and has a blunt end (Fig. 1c). This is used to push specimens out of the lumen of the tubular knife. Another stylet (Fig. 1d) is equipped with a sharp, hooked corkscrewlike tip (Fig. 1d'); with this specimens of tissue can be extracted for examination without removal of the instrument from the joint.

For the 130 procedures included in this report general anesthesia was used 65 times, local anesthesia 65 times. Specimens of synovial membrane have usually measured from 2 to 5 mm. wide and 3 to 7 mm. long. Occasionally specimens of about 1.0 cm. in length have been obtained. It is desirable to obtain enough tissue for both frozen and fixed sections for histologic examination and for tissue culture when indicated.

No postoperative reactions or disability following use of this instrument have been encountered. Significant synovial bleeding was not noted in any case. In the course of these investigative studies when feasible, this observation was confirmed by arthrotomy. No restrictions of the patient's physical activity have been necessary on account of this examination. Ambulatory patients examined under local anesthesia have promptly resumed their previous activity. Physical therapy may be instituted or resumed within 24 hours.

A satisfactory punch procedure produces a representative, accurate sample of either normal or diseased synovial membrane, and the procedure can be carried out with very little inconvenience to the patient. Sufficient synovial tissue was obtained for satisfactory histologic and bacteriologic examination from 112 of the 130 procedures (86.2 percent). From 4 instances (3.0 percent) the specimens were not considered satisfactory for histologic diagnosis because of the absence of lining cells or because of insufficient tissue. No synovial membrane was obtained from 14 (10.8 percent). Unsatisfactory results have been minimized by increased experience, the addition of a hooked lip on the mouth of the aperture in the outer tube and improvements in technic.

A definite diagnosis could be established with punch biopsy in 86 (66.2 percent) examinations. The clinical diagnosis of rheumatoid arthritis was confirmed in 33 of 39 examinations or 84.6 percent. When rheumatoid arthritis was suspected but the diagnosis was not definite, punch biopsy supported the diagnosis in 30 of 46 examinations (65.2 percent). A prebiopsy clinical diagnosis of articular tuberculosis was confirmed in 9 of 10 examinations (90 percent). The diagnosis of acute gouty arthritis was confirmed in 3 of 6 examinations (50 percent). In each of 4 instances a clinical diagnosis of osteoarthritis was substantiated. An indeterminate prebiopsy diagnosis was clarified in 37 of 69 examinations (53.6 percent). Diagnoses established included rheumatoid arthritis, synovial tuberculosis, osteoarthritis, osteochondromatosis and normal synovia. Monarthritis present in 26 patients was diagnosed by aid of punch biopsy in 18 or 69.2 percent.

Punch biopsy with the instrument is performed under sterile, aseptic conditions in an operating room. However, with similar preparation and precautions use of this instrument need not be limited to the operating room.

For punch biopsy of a knee joint, a small stab wound about 1 to 2 mm. long is made over the medial or lateral aspect of the suprapatellar pouch at the upper level of the patella. The inner tube of the instrument is fully inserted into the outer tube, thus covering the opening of the outer tube. The instrument is then introduced through the stab wound and directed toward the closest superior angle of the patella. It pierces the synovial membrane at this point and traverses the articular space beneath the quadriceps ligament. It is inserted until at the opposite side of the joint the trocar tip of the outer tube can be palpated through the overlying skin and soft tissues. The inner cutting tube is then withdrawn sufficiently to open the aperture of the outer tube.

Moderate digital pressure exerted externally on the top side of the outer tube where it is palpated in the suprapatellar pouch facilitates the engaging of tissue in the opening (Fig. 1 e and f). The inner, cutting tube is then fully reinserted with a rotary movement to cut off the tissue engaged in the opening.

An average of 2 to 4 specimens is usually taken. If desired, the specimens can be withdrawn for examination with the corkscrewlike stylet. When the procedure is completed the instrument is withdrawn and the blunt-tipped stylet is used to push out the tissue remaining within the inner tube. The wound is sealed with a collodion cotton dressing. An ace bandage is applied for 24 hours. The technic is essentially the same for examination of other joints accessible by punch biopsy. (Proc. Staff Meet. Mayo Clin., 18 July '51, H. F. Polley & W. H. Bickel)

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#### The Use of Muscle-Relaxing Drugs in Complicated Deliveries

The experiences of the authors in the use of 2 muscle-relaxing drugs, Tubarine and Syncurine, are reported. The former is a highly purified form of curare, known as d-tubocurarine chloride. The latter is a synthetic muscle relaxant drug, decamethonium bromide, or as it is commonly known, C 10. It was hoped by the authors that in the use of these muscle-relaxing drugs at the time of complicated deliveries the amount of anesthetic necessary would be lessened; that much strain and trauma would be removed from the mother and baby and that the mother's perineum at the time of her 6 weeks' checkup would be in much better condition than it would have been had the drugs not been used.

The history of curare has been completely covered by A. R. McIntyre in his recent book, Curare: its History, Nature, and Clinical Use (1947). Syncurine is a new synthetic preparation which has very similar properties to curare, as it acts on the myoneural junction. It has been used extensively with general anesthesia in surgical patients. Its relaxing action is much faster and of shorter duration than any form of curare. It has been found to be free of histamine-like side effects, does not appear to have cumulative effects and respiratory depression is generally much shorter in duration. It can be used along with almost any anesthetic agent. For practical purposes, 1 mg. Syncurine is equivalent to 3 mg. Tubarine. Syncurine has no definite antagonist. Neostigmine methylsulfate mitigates but does not completely abolish, the effect of Tubarine. The discussion is divided into 2 parts, dealing with (1) the experiences with Tubarine and (2) the experiences with Syncurine.

Tubarine.-a. Tubarine, a highly purified form of curare, was used in 50 selected cases as an adjunct to anesthesia (nitrous oxide and oxygen, or nitrous oxide, oxygen and ether) to provide muscle relaxation at the time of delivery. The results in vaginal delivery were: good, 83 percent; fair, 14.5 percent; poor, 2.5 percent. The fair and poor results were obtained in heavier patients in the early part of the study. When larger doses were used as suggested in weight dosage table, the results were far better.

b. The average time interval of 12 minutes, lapsing between the intravenous administration of Tubarine and delivery of the baby, would indicate that the drug should be given after the physician has finished scrubbing, when he can watch the patient for signs of perineal relaxation.

c. Tubarine, from clinical observations, tends to relax the perineal muscles before the muscles of the lower extremities are affected.

d. There is much less trauma to maternal soft parts at the time of delivery, and repair of the episiotomy is much easier when Tubarine is used. The perineal, when checked 6 weeks post partum, were much better supported and healed than if Tubarine had not been used.

e. Positive signs of curarization in the newborn infant were not found; however, it is possible, since analgesics were used in most cases during labor, that early signs may have been masked by the analgesic agents. There were no deaths and the 6 weeks' examinations of babies were satisfactory.

f. No adverse reactions were noted. Uterine contractions were not inhibited and blood loss after delivery was probably decreased because of the ease with which the episiotomy was repaired.

g. The use of Tubarine in cesarean section cases gave good relaxation of the abdominal muscles, but the time lapsing between the beginning of the anesthesia, the injection of Tubarine intravenously and the moment the baby could be delivered was felt to be too long.

Syncurine.-a. Syncurine, a synthetic muscle-relaxing drug, was used in 67 cases (abdominal delivery, 18; vaginal delivery 49) as an adjunct to the anesthesia (nitrous oxide and oxygen, or nitrous oxide, oxygen and ether) to provide muscle relaxation at the time of delivery. The results in vaginal delivery were: good, 76.5 percent; fair, 21.2 percent; poor, 2.3 percent. Despite a variation in doses, the quick action of the drug, its short duration and its seemingly variable effect on the perineal muscles made the standardization of dosage almost impossible.

b. The average time interval of 8 1/2 minutes (longest 20 minutes and shortest 3 minutes) between the giving of the drug and the delivery of the infant indicates to some extent the variability with which the perineal muscles responded.

c. The anal sphincter muscles showed considerable twitching when Syncurine was used. The perineal muscles did not relax earlier than the muscles of the lower extremities.

d. No sign of Syncurine effect was observed in the newborn infant, but here again the analgesics used during labor may have masked any slight effect. Fluoroscopic chest studies on the infant, carried out within the first 24 hours after delivery, showed no difference between babies delivered from mothers having Syncurine at the time of delivery and those delivered under the usual conditions. Six weeks' follow-up of babies showed good results.

e. No adverse side effects were noted when Syncurine was used. Uterine contractions continued strong. Blood pressure either stayed the same, dropped 10 mg., or increased 10 to 20 mg. Pulse rate remained about constant, respirations were occasionally moderately depressed.

f. The use of Syncurine in cesarean section proved almost ideal because of the good muscle relaxation obtained, light plane of anesthesia needed, and the quick action of the drug. No sign of Syncurine effect was observed in these babies.

Conclusions. 1. The use of Tubarine (d-tubocurarine chloride) as an adjunct to the anesthesia, to relax the perineal muscles in difficult vaginal deliveries, is a safe procedure for mother and baby. It will reduce injury to the maternal soft parts and to the newborn infant. It allows a much lighter plane of anesthesia to be used.

2. The use of Syncurine (decamethonium bromide or C 10) at the time of cesarean section is a safe procedure for mother and baby. When used even in relatively small doses, it reduces the amount of anesthetic agent needed, gives good relaxation of abdominal muscles and, from clinical evidences so far available, has no effect upon the newborn.

3. In the use of muscle-relaxing drugs at the time of delivery, a skilled and experienced anesthetist is required. He must be equipped to do intratracheal intubation and artificial resuscitation by means of positive bag pressure, if the need arises.

4. The authors would frown upon the indiscriminate use of muscle-relaxing drugs at the time of delivery. (Am. J. Obst. & Gynec., July '51, B. R. Austin & T. W. Mering)

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#### Effectiveness of a Chewing Gum Containing Nitrofuran in the Prevention of Dental Caries

In 1944, Dodd and Stillman demonstrated that certain furan derivatives containing a nitro group in the 5 position inhibited the growth of a large number of pathogenic bacteria. The mechanism of action is an interference with the ability of susceptible microorganisms to utilize some of the B group of vitamins, notably thiamin and nicotinic acid. Thiamin and nicotinic acid are essential for the maximum growth of the oral Lactobacillus acidophilus, the organism most commonly associated with the initiation of human dental caries. As constituents of coenzymes, thiamin and nicotinic acid are involved in the bacterial degradation of glucose to acids capable of dissolving tooth structure. It appeared, therefore, that the nitrofurans might be of value in the prevention of human dental decay.

Accordingly, 10 nitrofurans were screened for their relative potency as inhibitors of acid production in saliva and of the growth and acid production of an oral strain of L. acidophilus cultured in a synthetic medium. Of those tested, 5-nitro-2-furaldehyde 2 (2 hydroxyethyl) semicarbazone, or Furadroxyl, was found to be most effective as an inhibitor of dental caries activity when added in vitro. When added in vivo, Furadroxyl maintained its inhibitory effect in the presence of the tissues and fluids of the oral cavity.

Furadroxyl is a yellow crystalline compound with a melting point of 214° to 216° C. It is soluble in water to the extent of 1,264 mg. per liter. Eighty volunteers were selected for this study. Each had clinical, roentgenographic and laboratory evidence of active dental caries at the time of selection. The subjects ranged in age from 6 to 38 years. Thirty-three were males and 47 were females.

All were white and, with few exceptions, natives of north central Alabama.

The 80 subjects were arbitrarily divided in 3 groups. Group 1 included 30 persons ranging in age from 6 to 38 years, each of whom chewed one stick of specially prepared gum which contained Furadroxyl after each meal. Each stick of gum weighed approximately 3 Gms. and contained from 7.0 to 7.5 mg. of Furadroxyl. Group 2 included 25 persons ranging in age from 8 to 35 years, each of whom chewed one stick of a specially prepared gum but not containing Furadroxyl after each meal. Group 3 included 25 persons ranging in age from 7 to 35 years who did not chew any type of gum routinely after each meal. Groups 2 and 3 served as the control groups. The members of Groups 1 and 2 were instructed to begin chewing the gum within 4 minutes after the completion of a meal and to continue this procedure for at least 10 minutes. The nature of the study was outlined to each participant and great stress was placed on the need for individual cooperation.

The composition of the 2 types of specially prepared gum was identical except for the presence or absence of Furadroxyl. Each was comprised of gum base (chicle), 38.3 percent; sorbitol, 53.3 percent; mannitol, 5.0 percent; peppermint flavoring, 1.3 percent, and softeners, 1.1 percent. The softeners consisted of equal amounts by weight of pure paraffin wax and a lecithin made from soybeans.

The study began in August, 1949, and continued through August, 1950. The degree of carious involvement in each member of each group was determined by a clinical and roentgenographic examination. The findings were charted on a special form for each subject. The examination was repeated in its entirety by the same examiner at the end of the 12 month experimental period.

Each subject was seen in the clinic at least once every 3 weeks throughout the period of study. During these visits, the experimental gum was allotted, dental caries activity determinations were made, and the subjects in Groups 1 and 2 were questioned and examined for evidence suggestive of hypersensitivity to the ingredients of the gum. At no time throughout the course of the study was any attempt made to change the dietary or oral hygiene habits of any of the participants.

Recent evidence indicates that dental caries formation is an intermittent rather than a continuous process and that the greatest degree of activity occurs in the 30 minute period immediately following the ingestion of a meal containing fermentable carbohydrates. In this study, it was shown that the postprandial use of a chewing gum containing Furadroxyl during the peak periods of dental caries activity significantly reduced the incidence of new dental decay in persons highly susceptible to dental caries. Only 25 new carious lesions developed in a group of 30 persons who chewed the gum containing Furadroxyl after each meal during a 12 month experimental period as contrasted to 82 new lesions in a group of 25 persons who chewed a gum not containing Furadroxyl and 106 new lesions in a group of 25 persons who did not chew any gum routinely after each meal. The number of new carious lesions per individual in the group which chewed the gum not containing Furadroxyl and in the group which did not chew either of the specially prepared gums exceeded that of the group which chewed

the gum containing Furadroxyl by 75 percent and 80 percent, respectively. Since the caries increase in the persons who chewed the gum containing Furadroxyl was significantly lower than in the persons comprising the two control groups, it would appear that the Furadroxyl lowers the incidence of new dental caries.

There was no significant statistical difference between the caries increments in Groups 2 and 3 despite the routine use of the gum not containing Furadroxyl by the members of Group 2. Volker has reported that although the chewing of commercial gum removes an average of 80 percent of the residual oral debris, it is without effect on the incidence of dental caries. (J. A. D. A., August '51, S. Dreizen & T. D. Spies)

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#### A New Method in Electrocardiographic Technic for Use in Patients With Somatic Tremor

The effect of somatic tremor on the electrocardiogram is to render it of little or no value. The rhythm, conductive mechanism and configuration of the electrocardiographic pattern are obscured or lost as a result of the vibratory motion or violent oscillations of the string or stylus. Misinterpretation and lack of interpretation are not infrequent. Confusion with auricular flutters is also not uncommon. The need exists, therefore, in patients having marked somatic tremor, for a method of recording readable electrocardiograms.

Electrocardiography during sleep has been offered as a solution to this problem, and many investigations have been done with electrocardiography during anesthesia. However, these studies were carried out to determine the effect of various anesthetic agents on the heart as recorded on the electrocardiogram. The resultant findings have been somewhat conflicting. From these studies, it would appear that with proper precautions, sodium amytal and pentothal sodium were safe agents, having little effect on the heart, and could be used as sleep-inducing agents for purposes of electrocardiography. Although these drugs have been used successfully, this method is not considered with favor. There are numerous precautions and contraindications to be considered. These are ably presented by Adriani and are as applicable to their use as sleep-inducing agents for purposes of electrocardiography as to their use for anesthesia. Patients must be selected with care, thus eliminating those in whom contraindications exist. At the time of electrocardiography, the presence of at least two people is required, viz., the physician and a technician. It is time consuming, a major consideration in large institutions where a great deal of work with limited personnel is a factor. A method was therefore sought which would be practical, could be carried out easily by one person, would eliminate the use of drugs and give reliable results.

In examining patients with Parkinson's disease, it was noted that there was a minimal amount of tissue movement over the supraglenoid tubercles and

over the anterior superior iliac spines, even though there was marked muscle tremor and movement of the extremities. From the standpoint of electrocardiography, this was a fortunate observation in that it suggested sites for electrode application where the tremor would have a minimal effect. In addition, it would result in electrocardiographic patterns similar to those obtained with electrodes fastened to the extremities and would permit the continued use of the presently accepted terminology. Since the standard electrodes would not permit ease of application in these areas, those used for electroencephalography were adapted for use. After the usual skin preparation, the electrodes were attached with short strips of adhesive tape, scotch tape or with collodion. By attaching the wire from each of these electrodes to the appropriate limb lead, electrocardiography could be done as usual.

This method has resulted in improved electrocardiograms in all cases in which it has been utilized. In some instances of neurological disease where body movement is exaggerated and uncontrollable, this method is inoperable. In such cases, a sleep tracing should be done, provided no contraindications to the use of the sleep-inducing agent exist. (Am. Heart J., July '51, N. Glaubach)

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#### Etiology and Treatment of Postspinal Headaches

Postspinal headaches are related directly to the leakage of cerebrospinal fluid through the dural puncture hole. If the rate of fluid loss exceeds the rate of formation, postspinal headache may be expected to appear. The various measures taken to prevent or cure such headaches are based on this fact. The use of smaller needles, care in performing the tap, inserting the bevelled needle parallel to the dural fibers and keeping the patient flat are all measures which have been used to decrease rate of leakage. Recent reports have emphasized the importance of maintaining fluid balance with a slight positive load of water in order to prevent postspinal headaches. Weed and Cushing reported that the addition of a hypotonic solution to the body, whether intravenously or by way of the gastrointestinal tract, increased the cerebrospinal pressure, whereas a hypertonic solution decreased cerebrospinal fluid and pressure.

In the present study, the following regimen was used in 37 patients suffering from postspinal headaches: An intravenous infusion of 500 to 1000 cc. of 5 percent dextrose in 0.45 percent sodium chloride containing 100 mg. of nicotinic acid was given intravenously. Nicotinic acid was used to act as a peripheral vasodilator and increase the blood flow through the choroid plexus. It was thought that this might stimulate faster formation of cerebrospinal fluid. The patient was kept flat in bed for a period of 12 hours in order to decrease the pressure of cerebrospinal fluid at the site of the puncture in the dural sac. The first 4 or 5 patients were kept in about 15 degrees Trendelenburg position for 12 hours, but because of the extreme discomfort of this position it was discontinued and the patient was kept flat. The treatment was repeated in 3 cases but in all of the others

a single treatment was given. The results obtained were classified as follows: poor if the patients showed no improvement in the postspinal headaches; fair when the headache was stopped or relieved, but recurred before the patient left the hospital; good if the headache was permanently relieved, but not stopped immediately and excellent if the headache disappeared after treatment and did not recur. Of the patients receiving this treatment 6 were classified as obtaining poor, 6 fair, 8 good and 17 excellent results.

Adequate hydration of the patient is necessary to provide a store of "free-water" on which the choroid plexus can draw to form new spinal fluid to replace that lost by leakage. If the rate of formation of fluid can be stimulated to the point where it equals the loss, no true postspinal headache will appear.

Working on this principle, the authors are now preparing a report on the incidence of headaches following the use of the Whitacre pencil-point needle plus enforced hydration of the patient by increased water intake and the antidiuretic principle of posterior pituitary extract. This regimen is used during the first 3 postoperative days, when the dural hole is relatively fresh and more spinal fluid leakage may be expected. (Anesthesiology, July '51, J. E. Krueger, V. K. Stoelting & J. P. Graf)

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#### Aureomycin in the Treatment of Actinomycosis

The possibility of actinomycosis should be considered in the diagnosis of all subacute and chronic inflammatory processes, especially in those involving the cervicofacial region. Although numerous agents have been employed in the treatment of this infection, it was only after the advent of the sulfonamides and penicillin that the prognosis was materially improved. The author reports the successful treatment of 3 cases of cervicofacial and 1 case of abdominal actinomycosis with aureomycin. It is emphasized that no major surgical procedure was required. The treatment of cervicofacial actinomycosis on an ambulatory basis with no interruption of employment is of great practical value. Likewise, oral medication is much to be preferred to the intramuscular route required for penicillin therapy. This is especially true when treatment must be prolonged, as is the case in actinomycosis. In no instance were significant toxic reactions to aureomycin noted.

In vitro sensitivity studies on Actinomyces bovis isolated from 2 of these patients and from 2 additional cases not included in this series established a definite inhibitory action by aureomycin. Aureomycin exerts a bacteriostatic effect on Actinomyces bovis, although certain strains are evidently more resistant to aureomycin than others. This variation in sensitivity was previously noted with penicillin, and it was suggested that concomitant secondary infection might play a part in this phenomenon.

Although the post-therapeutic observation periods in these 4 cases are relatively brief (17, 14, 13 and 12 months) the uniformly excellent response is

most encouraging. In view of the rapid clinical response, ease of administration and lack of significant toxic effects, aureomycin appears to be the agent of choice in the treatment of actinomycosis. (New England J. Med., 19 July '51, L. V. McVay, Jr., F. Guthrie, & D. H. Sprunt)

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#### Oral Penicillin For Prophylaxis of Gonorrhea

Studies on oral penicillin prophylaxis of gonorrhea are continuing in ships and shore stations outside the continental limits. A few good reports have been received this year. More reports are desired and needed. Every senior medical officer in an activity where this method is used should keep such records as will permit him to make an evaluation of the efficacy of the method.

Reports to date are consistently favorable. They show 90 to 100 percent effectiveness of one tablet in prevention of gonorrhea. Runs as high as 7,000 tablets have been taken in areas of high incidence without a single case of gonorrhea developing in men who had taken a tablet after each sexual exposure.

Several studies show that darkfield primary syphilis is readily and frequently diagnosed during the course of a series of oral penicillin tablets taken for prophylactic purposes. Such follow-up studies for serologic evidence of masked syphilis as have been done reveal no unusual frequency of masked syphilis. In former years up to 20 percent of latent syphilis was without recognized primary or secondary signs. There have been no cases of penicillin sensitization noted. Men with prior history of allergic reaction to penicillin have taken the tablets without complaints. Furthermore, men who have been taking oral penicillin for months have shown no unusual reactions to intramuscular penicillin when given. A very small percentage have shown skin reactions to the first tablet taken, indicating prior sensitization. There have been no observations of penicillin resistant gonorrhea, and in view of the lack of prophylactic treatment of the female contact, oral penicillin prophylaxis is expected to be much less likely to produce resistant strains of gonorrhea. Due to irregular usage of a single tablet, the probability of altering the nasopharyngeal flora, or developing resistant strains there, is considered much less than might occur with more frequently repeated sub-curative doses. Oral penicillin tablets have proved highly acceptable. When properly indoctrinated, 95 percent or more of exposed men take the tablets.

Present policy is still to limit use of oral penicillin to areas of high incidence. Greatest care in accountability is necessary since the cost is not inconsiderable and is rising, and any tendency to self-treatment or unauthorized disposition of tablets must be checked. Every tablet issued should be swallowed in the presence of a responsible observer.

Statistics of usage, number of man-days liberty taken by the crew, incidence of venereal disease and prophylactic history in cases developing venereal disease are desired. Stage of syphilis should be reported in each case of that disease, as well as dates of all exposures and all tablets taken. Data on reactions noted,

resistant strains of organisms, incidence of nonspecific urethritis, and any other pertinent observations are also desired. (Preventive Med. Div., BuMed)

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### Selected Research Reports

Filariasis in American Samoa. I. Loss of Microfilaria in the Absence of Continued Reinfection. Surveys in 1950 to determine the incidence of microfilaremia in Samoans included a group of nurses having 4 to 52 months residence at the Samoan Hospital. Antimosquito measures have made transmission of Wuchereria bancrofti in the vicinity of this hospital highly improbable. Consequently, the nurses probably are not reinfected during their period of training. The incidence of microfilaremia in nurses with residence at the hospital for as long as 32 months corresponded to that observed in women of the same age group in various villages. However, the number of nurses with residency of 40 to 52 months with microfilariae was considerably lower than expected.

Extending these studies, a group of 134 Samoans living on Oahu, Hawaii were examined for microfilariae. None of 62 Samoans who were born and reared in Hawaii showed any blood infection. Therefore, transmission of filariasis in Hawaii, if it occurs at all is of little importance. While only 8 of the 72 individuals born in Samoa were infected, all 8 had been in Hawaii for less than 6 years. There were no indications of the infection in the persons who had come to Hawaii more than 6 years prior to the survey.

It appears that microfilaremia may persist for at least 5 years in persons who are not exposed to reinfection. However, it would appear that the microfilariae disappear within 10 years after the last infection. (Project NM 005 048. 08.01, NMRI, NNMC, Bethesda, Md.)

*Leo A. Jackowski, Jr.*

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A Recording Automatic Syringe for Rapid Intravenous Injections at Regulated Rates. In order to administer small amounts of dye under controlled conditions of rate and duration, an automatic syringe activated by air pressure has been devised. A measured volume of dye is removed from a reservoir with the loading syringe and transferred to the injection syringe. Air under pressure is introduced into a lucite chamber into which the barrel of the syringe is sealed. The pressure empties the syringe through one arm of a Y-needle. The other arm of the Y-needle transmits pressure to a strain gauge which records the beginning of the injection as an upward trace of a recording galvanometer and the end of the injection as a downward trace. Between injections the needle is kept open by a slow infusion. Since the volume of the needle tip is small, relative to the volume injected, no correction for dead space is necessary. (Project NM 007 081.07.05, NMRI, NNMC, Bethesda, Md.)

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Medical Procedures in Connection with the Operation of Brigs

Commanding officers and senior medical officers of all medical activities are requested to indoctrinate, without delay, all Medical Department personnel in the basic procedures of brig administration. Particular attention shall be given to Brig Manual Articles 314 (1), 406 (2), and 417.

Deputy and Assistant Chief of Bureau

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Duty With the Atomic Bomb Casualty Commission

The Atomic Bomb Casualty Commission sponsored by the National Academy of Sciences and the Atomic Energy Commission conducts two clinical laboratories at Hiroshima and at Nagasaki. The program is carried on in the field by approximately 100 physicians and 900 supporting personnel. Six of the 19 American physicians in residence are certified by their Specialty Boards. Elective courses in biometrics and radiobiology are available to the resident staff. Laboratory equipment is highly adequate. Working and living conditions are desirable. A knowledge of the Japanese language is advantageous but not mandatory.

Applications for duty with the ABCC are desired as soon as possible from interested officers in the ranks of Lieutenant Junior Grade or Lieutenant, MC, USN, and should be addressed via official channels to the Chief of the Bureau of Medicine and Surgery. (Personnel Div., BuMed)

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Malaria in Marines Returning From Korea

In the 2 week period from 10 June to 24 June, 5 cases of malaria due to Plasmodium vivax have been diagnosed at the Camp Infirmary, and transferred to the Naval Hospital at Camp Lejeune. Several additional suspected cases are under observation.

The pertinent history of each of these 5 cases is strikingly similar. There is no history of known malaria in the past, nor of any previous recurrent febrile illness. All of these cases are among Marines who have returned to the United States during the past 2 to 3 months, from duty in Korea. All were attached to the 5th Marine Regiment, 1st Marine Division, and saw duty both in the Pusan area and in the Inchon landing. Four of the 5 patients give a history of receiving a small, white tablet weekly while in Korea, which is presumed to be suppressive therapy for malaria. These men traveled and visited in various parts of the United States, while on leave after returning from Korea, and arrived at Camp Lejeune from several days to 6 weeks prior to the onset of symptoms. The possibility of any of these cases having a primary origin at Camp Lejeune

appears to be reasonably ruled out both by the circumstances above, and the absence of any new cases of malaria at this camp for several years.

Blood smears from each case have been received in the laboratory of Epidemic Disease Control Unit # 3, and the presence of Plasmodium vivax confirmed. A survey of all Korean veterans now stationed at Camp Lejeune is being initiated by the Camp Medical Officer. Personnel of this Unit will assist in the survey, particularly in the preparation and reading of thick smears.

Numerous similar cases of malaria have appeared among returning Korean veterans, both Army and Marine Corps, stationed at other military installations. The time of contracting the infection is believed in most cases to have been the previous summer or fall, with symptoms of the first attack completely suppressed by the suppressive therapy routine, and no symptoms occurring during the winter months. This is a startling characteristic of the seasonal behavior of vivax malaria of certain temperate climatic strains. It is not seen in the Chesson strain which came from the South Pacific during World War II. (Preventive Med. Div., BuMed)

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#### Possible Erythema Arthriticum Epidemicum (Haverhill Fever) in Korea

Early in April 1951, a marine with a clinical picture consistent with that of erythema arthriticum epidemicum was admitted to a medical company located at Hongchon, Korea. His temperature was a little over 102° F. Both knee joints were tender and contained moderate amounts of fluid sufficient to give rise to bilateral patellar tap. There was a sparse macular rash scattered over both legs. Macules were inconspicuous, pink and 1 to 2 centimeters in diameter. Agglutinations for typhoid and paratyphoid A and B were negative. No other laboratory procedures were recorded. Recovery was so prompt with aureomycin therapy that the patient was returned to duty.

The two most commonly recognized routes of infection are raw milk and rat-bite. Sporadic cases have also been described. This patient had not drunk raw milk and had not been bitten by a rat, though rats may have shared his fox-hole.

This disease was described in the Haverhill, Massachusetts, epidemic as transmitted by raw milk. When not associated with the bite of a rat, it is often called "Haverhill Fever". The cause is Streptobacillus moniliformis. When transmitted by rat-bite, it is one of the two forms of "rat-bite fever". The other form is caused by a spirochete, Spirillum minus.

If this disease picture is observed again, further studies to establish the diagnosis should be made, if possible, before institution of specific therapy. In this case, aureomycin was highly and promptly effective. Laboratory identification includes:

1. Blood and joint-fluid cultures on the special media. (Serum protein or egg-yolk in usual solid laboratory media; commercial soluble starch can replace the protein in liquid media.)
2. Inoculation of mice or embryonated eggs.
3. Specific agglutination--difficult to prepare antigens.

Attention is again invited to the requirement of the Manual of the Medical Department for a special epidemiological report of any disease, either unusual in nature or occurring in unusual numbers. (Preventive Med. Div., BuMed.)

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#### Officers' Basic Course in Naval Medicine

The Bureau of Medicine and Surgery is now accepting applications from medical officers on active duty in the Navy or Naval Reserve for a 9 months Basic Course in Naval Medicine to be given at the U. S. Naval Medical School, National Naval Medical Center, Bethesda, Maryland, beginning 17 September 1951. This course has been designed to provide the young medical officer with a broad background in those phases of naval medicine that are so essential to a successful career in the Navy.

The course will include instruction in Medical Department organization and duties, customs, ethics, preventive and industrial medicine, amphibious, aviation, submarine, field and shipboard medicine, physical and rehabilitative medicine, emergency care of casualties and their transportation, general medical and surgical subjects, clinical, pathological conferences and library periods.

Requests for assignment to the course should be submitted to the Chief of the Bureau of Medicine and Surgery. Since the course is basic to a career in naval medicine, applications by regular Navy medical officers will take priority over those of reserve officers in filling the class quota. Assignment to the course represents permanent change of duty orders. (Professional Div., BuMed)

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#### Short Courses in Psychiatry

Applications are now being accepted by the Bureau of Medicine and Surgery for 6 months courses in psychiatry scheduled to begin 1 November 1951, at the U. S. Naval Hospital, NNMC, Bethesda, Md., and U. S. Naval Hospital, Philadelphia, Pa. Medical officers (USN and active duty USNR) with an interest in psychiatric medicine are eligible to apply for the courses which will include intensive didactic and practical instruction in basic psychiatry, clinical psychiatry, clinical neurology, administrative psychiatry and special therapies.

Both of the above hospitals are approved for training in psychiatry by the American Medical Association and satisfactory completion of the course may be

applied toward meeting the training requirements for eligibility for Board certification. The short course program will be conducted in addition to the hospitals' established long-term psychiatry residency programs, applications for which from medical officers meeting the eligibility criteria set forth in BuPers C/L 49-50 of 7 Apr 1950 are still desired.

Requests to attend the course should be submitted by letter, or dispatch if the time element requires, to the Chief, Bureau of Medicine and Surgery, Navy Department, Washington 25, D. C. Requests should indicate preference for assignment to the Bethesda or Philadelphia hospital and must contain the applicant's agreement to remain on active duty for one year following completion of the course, or for one year beyond the expiration date of any service for which he may be currently obligated, whichever is longer. Assignment to the course will constitute a permanent change of duty, permitting transportation of dependents and household effects. (Professional Div., BuMed)

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#### Red Blood Cell Counter Developed by Scientists Under Navy Contract

A red blood cell counter which has certain advantages over the present visual method has been developed under a contract of the Physiology Branch, Office of Naval Research, with Cornell University. This counter, which is based on a relationship between the red cell count and the conductivity of whole blood, is most useful, at present, for making blood counts of normal individuals.

Errors of the visual methods such as those of the chamber, pipette, and microscopic field are not encountered in the conductivity method since there is no dilution and the quantity of blood is not critical. However, while one method may avoid errors occurring in other techniques, each method has errors peculiar to itself, as in the most recent testing of the instrument which was carried out at the Microbiology Institute, National Institutes of Health, the average counting error was about 9 percent. (BioSciences Group, ONR)

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#### Insects Resistant to DDT

Fly resistance to DDT is reported from Greece in addition to many other Mediterranean areas. Resistance in Phlebotomus and fleas has also been noted in recent reports from this area. Caution is advised in reliance on DDT in areas where it has been used before. Fortunately, resistance to DDT has developed more slowly in mosquitoes than in other insects of medical importance, but an increased resistance has been noted even here in some species, particularly salt marsh varieties. (Preventive Med. Div., BuMed)

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From the Note Book

1. One hundred and sixty-one Navy medical officers who served with the Army in the Far East Command have been commended by General M. B. Ridgway, Commander in Chief, United Nations Command, for outstanding performance of duty in Korea. They are part of the group of 570 Navy medical officers assigned to the Army by order of the Secretary of Defense last September. All have now been returned to the Navy. Two of those commended were casualties, one killed and one wounded. (PIO, Dept. of Defense, 2 August '51)
2. Rear Admiral Lamont Pugh, Surgeon General of the Navy, has returned to Washington after a 32 day, 20,000 mile personal inspection tour of Navy medical facilities in the Pacific Ocean area and Far East, including Korea. (PIO release, BuMed, 9 August '51)
3. The U. S. Public Health Service has released a booklet, "Immunization Information for International Travel," which contains official information on the immunizations required and recommended by each country and the immunizations recommended by the Public Health Service as a precautionary measure for persons traveling abroad. It may be purchased from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., for 20 ¢ a copy. (News Release, FSA, PHS, 30 July '51)
4. The U. S. Department of Commerce published in its July Survey of Current Business the results of the survey of the 1949 incomes of physicians in the United States. A summary and an analysis of this report appear in the J. A. M. A., 28 July 1951, by F. G. Dickenson and C. E. Bradley.
5. A Clinical Branch has been established as a part of the Biological Sciences Division, Bio Sciences Group, ONR. The duties of the Branch will include liaison with BuMed, handling of a more applied program for ONR and BuMed and interpretation and aid in application of fundamental research to Navy needs. (Bio Sciences Group, ONR)
6. The American Foundation of Occupational Health has taken over recently the evaluation and approval of medical services in industry which has been conducted by the A. C. S. for the past 20 years. The foundation is setting up a board of governors to guide it in the new project. (Industrial Health Monthly, FSA, PHS, August '51)
7. Professor T. Antoine, of the University of Vienna, has described an apparatus, the "colpomicroscope" and its use in examination of the uterine cervix. It is an ordinary microscope plus 2 cylinders, one for illumination, the other permitting a good focus by easy control of the distance between the cervix and lens. The light source is sufficiently brilliant to permit photography. The field of

vision is 1 square mm. The magnification is as high as 160-200x. He suggests staining the epithelium with hematoxylin. The surface cell boundaries and nuclei can be seen. In cancerous epithelium, the unequal size of these cells, differences in nuclear staining and increase in the number of mitotic figures are notable. The purpose of the use of this apparatus is to replace biopsy and to study the changes in the same area from day to day. It is stressed that only the superficial cells are seen. (European Scientific Notes, 1 July '51, ONR, London)

8. The Dental Research Institute of the National Institutes of Health, Bethesda, Maryland, has awarded a grant for the purpose of investigating whether sodium fluoride taken by pregnant women will provide protection for their children against tooth decay, and whether a fluorine solution administered during pregnancy transfers the fluorine to the fetal blood stream and whether such transference is beneficial. The investigation will be under the direction of Dr. R. Feltman of the Passaic General Hospital, Passaic, New Jersey. (News Release, FSA, PHS, NIH, 9 August '51)

9. A total of 150 Public Health Service grants amounting to \$1,416,760 to assist cancer research in 78 hospitals, universities and other non-Federal institutions in 29 states, D. C. and England, have been announced by the Federal Security Administration. (PIO release, FSA, PHS, 8 August '51)

10. L. H. Tisdall justly reminds us to spare using as much Rh negative blood as possible because this is needed in the treatment of all cases of erythroblastosis fetalis (even though the infant's blood is Rh positive) and it is also needed in the form of O Rh negative as universal donor blood. Blood transfusions must be Rh compatible, as well as group compatible. Rh negative recipients must therefore receive only Rh negative blood and of the proper group. Occasionally, when the Rh type is unknown, Rh negative blood is given. This is a mistake, because often it is unnecessary, and later, when Rh negative blood is really needed, the blood bank will not have a sufficient supply. (Am. J. Surg., August '51, R. A. Leonardo)

11. Payments to beneficiaries of deceased policyholders by the Metropolitan Life Insurance Co. in 1950 amounted to \$286,000,000, with 7 of every 10 dollars of this sum being paid for deaths from diseases of the heart, blood vessels and cancer. One dollar in every 10 was for deaths from external causes, with payments for accidents amounting to \$23,000,000, for suicide to \$5,000,000 and for homicide to \$1,500,000. For motor vehicle accidents alone disbursements were about \$10,700,000. ("Outside the Ivory Tower," Am. J. Surg., August '51, reported by C. G. Taylor, Jr., president of Metropolitan)

12. It is emphasized that a specific amount of dicumarol influences in a dissimilar manner the values for prothrombin for different persons. This observation

is the basis of the warning that treatment with dicumarol can be carried out safely and efficiently only when the prothrombin time is determined at short intervals. (Proc. Staff Meet. Mayo Clin., 4 July '51, W. E. Wellman & E. V. Allen)

13. Ten cases of vaginal hemorrhage due to the use of potassium permanganate, either in tablet, crystal or douching fluid, are discussed in American Journal of Surgery, August 1951, S. Lubin and R. Waltman.

14. A clinical review of 340 cases of premature separation of the normally implanted placenta appears in the American Journal of Obstetrics and Gynecology, July 1951, S. M. Bysshe.

15. The effects of penicillin, induced fever and other therapeutic measures on cerebral blood flow and metabolism in neurosyphilis are discussed in American Journal of Syphilis, Gonorrhea and Venereal Diseases, July 1951, by A. Heyman, J. L. Patterson, Jr., F. T. Nichols and R. W. Jones.

16. An evaluation of an improved preparation for intravenous administration of sodium seconal as a basal hypnotic and adjunct to anesthesia is discussed in Anesthesiology, July 1951, O. F. Bush, P. S. Pentecost & J. Adriani.

17. Married women in the middle and older age groups are regarded as being responsible for an influx of women workers in industry. The participation rate for married women 45 years of age and over has actually exceeded the 1944 wartime peak. Figures show 18.7 million women in the labor forces of the United States. ("Aging," FSA, 6 August 1951)

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#### List of Recent Reports Issued by Naval Medical Research Activities

##### Naval Medical Research Unit No. 3, Cairo, Egypt

Laboratory and Field Evaluations of Two Dinitro-Phenols as Molluscacides for Control of Schistosome Vectors in Egypt With Emphasis on Importance of Temperature, Project NM 005 050.20.01, 28 June 1951

The Effect of Temperature on the Molluscacidal Activity of Copper Sulfate, NM 005 050.38.01, 30 June 1951.

##### Naval Medical Field Research Laboratory, Camp Lejeune, North Carolina

Biological Properties of Starch Sponge and Starch Sponge Powder, Project NM 007 083.05, June 1951, Volume II.

BUMED CIRCULAR LETTER 51-110

26 July 1951

From: Chief, Bureau of Medicine and Surgery  
To: All Naval Hospitals, Continental

Subj: Employment of Clinical Psychologists and Medical and Psychiatric Social Workers

1. Current instructions require the prior approval of the Bureau of applicants for subject named positions. Recent requests from a number of hospitals for approval of candidates in these categories have failed to supply sufficient information to provide the Bureau with sound bases for approval.
2. The Central Office of the Civil Service Commission maintains registers of eligibles for Clinical Psychologists and for Medical and Psychiatric Social Workers. Before proposing the appointments of non-status employees, addressees must request the appropriate register from the Commission. If the Commission is unable to supply a register or if eligibles are not available on the register furnished, the hospital may then appoint other qualified applicants. In the case of the Social Workers, the prescribed written test may be waived at the discretion of the hospital.
3. Letters to the Bureau proposing candidates for appointment should indicate, therefore, whether the candidates have been selected from registers. If the candidate has not been selected from a register, and does not have Civil Service status, the hospital should supply information as to the steps that have been taken to secure eligibles from a register. In addition, the hospital should supply information derived from reference checks, personal interview, etc., and should indicate its preference if more than one candidate is submitted for a single position.
4. In connection with the foregoing, the Bureau desires to be currently informed as to the status of recruitment on all Clinical Psychologists and Medical and Psychiatric Social Worker positions. Accordingly, addressees shall submit a report now showing which of these positions are filled and indicating the status of recruiting on those that are not filled. Thereafter, addressees shall submit a report to the Bureau promptly when one of these vacant positions is filled or when a filled position becomes vacant.

C. J. Brown  
Acting

The above letter will not be printed in the Navy Department Bulletin.

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BUMED CIRCULAR LETTER 51-111

26 July 1951

From: Chief, Bureau of Medicine and Surgery  
To: BuMed Management Control Activities  
(as indicated)

Subj: Fiscal Services Work Measurement Program

Ref: (a) BuMed Circular Letter No. 50-110 of 3 Oct 1950  
(b) BuMed Circular Letter No. 50-138 of 11 Dec 1950  
(c) BuMed-2325 ltr A3-4/EN10 of 3 April 1951

Encl: (1) Definitions and Reporting Instructions

1. References (a) and (b) are hereby cancelled and superseded.
2. Enclosure (1) contains revised definitions and instructions for the Fiscal Services Work Measurement Program. These revisions were made as a result of the experience and information gained under the Program by the various bureaus and offices of the Navy Department during the past fiscal year. They were developed by a Navy-wide committee composed of representatives of the bureaus and offices familiar with the technical aspects of fiscal services in the Navy Department and are designed to clarify the definitions and make the work units more valuable and meaningful.
3. These revised definitions and instructions are effective as of 1 July 1951. The first report required under the instructions contained in enclosure (1) is for the month of July 1951 and shall be forwarded to reach the Bureau not later than 15 August 1951. Reports for succeeding months shall be submitted to reach the Bureau within fifteen (15) days after the end of the month being reported. This schedule will enable the Bureau to meet deadlines established for submitting consolidated reports to the Assistant Comptroller, Accounting, Audit and Finance, Navy Department.
4. Each reporting activity was furnished fifty (50) copies of NAVMED Form 1322 (Rev. 3-51) as enclosure (1) to reference (c). Inasmuch as the overall basic format thereof will fulfill the new reporting requirements effective 1 July 1951, NAVMED Form 1322 (Rev. 3-51) will continue to be used. In this connection, however, it will be observed that the terms, "Man-hours Worked" and "Man-hours Absent from Duty" are referred to as "Productive Time" and "Non-Productive Time", respectively, under the revised instructions. Attention is invited also to the fact that the double work unit used formerly for Sub-function 2, "Timekeeping" has been consolidated into a single reportable item.
5. The data derived from these reports are analyzed by the Bureau of the Budget and are used by the Bureau of Medicine and Surgery in justifying budget estimates.

In addition, these data may be used by the Bureau of the Budget to evaluate the effectiveness of fiscal operations and also for determination as to the maximum number of personnel to be authorized for fiscal services during the year. Therefore it is essential that the reports submitted to the Bureau be as accurate as possible.

6. In the event questions arise after enclosure (1) has been reviewed, a request for clarification should be submitted to the Bureau. In addition, the Bureau would appreciate the advantage of receiving any constructive suggestions or comments concerning this Fiscal Services Work Measurement Program.

C. J. Brown  
Acting

The above letter will not be printed in the Navy Department Bulletin.

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BUMED CIRCULAR LETTER 51-112

30 July 1951

From: Chief, Bureau of Medicine and Surgery  
To: All BuMed Managed Activities, Continental

Subj: Typewriters; purchase, utilization, replacement, and disposal

Ref: (a) BuMed Cir ltr 50-143 of 21 Dec 1950  
(b) ONM ltr M71:KAG:ilh OGC/MHS:mbr serial 121  
of 18 June 1951 and enclosure thereto  
(c) NPR&D Reg. No. 1 (Revision of 15 Apr 1949)

1. Reference (a) is hereby cancelled and superseded.

2. By reference (b) this Bureau was assigned responsibility for enforcing at its management control activities the provisions of Personal Property Management Regulation No. 18 of the General Services Administration.

3. Accordingly all activities shall immediately effect measures to insure:

(a) That all persons within the command are cognizant of and comply with instructions relative to adequate and proper care of typewriters.

(b) That repairs to typewriters are accomplished only by qualified personnel.

(c) That machines are distributed so that their maximum life is assured. (Re-assignment of machines should be planned in order that those in the best mechanical condition will be available for the most exacting service and those in

poorer condition will be assigned to less important operations.)

(d) That wide-carriage and special type machines used for limited periods of time should be so distributed to enable several departments to have access to them as required.

4. The following minimum standards for the replacement of typewriters have been established:

"Typewriters shall not be purchased for replacement purposes unless it is determined that the estimated cost of necessary repairs or rebuilding of each typewriter being replaced will equal or exceed at lowest available rates of the percentage of replacement costs as shown in the 'Standard Replacement Cost Percentage Scale'. Replacement cost as used herein is the current price of a replacement typewriter less the sale price or trade-in value of the used typewriter."

#### Standard Replacement Cost Percentage Scale

Percentage of replacement cost (new price less sale or trade-in value) which will justify replacement <u>in lieu of repair</u> -----	Year after year-of-manufacture as shown by manufacturer's serial number											
	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	
	80%	80%	80%	70%	70%	60%	50%	40%	30%	20%	10%	

5. This directive shall not be interpreted to mean that replacement is mandatory when standards permit replacement. Equipment which is in usable and workable condition shall be retained and used even though standards permit replacement.

6. Activities submitting requisitions for typewriters shall indicate thereon whether the requirement is for replacement of typewriters or additional typewriters. All requisitions for typewriters shall be annotated to indicate the number of typewriters on hand.

7. Excess machines shall be reported in accordance with reference (c).

8. Personal Property Management Regulation No. 18 defines "typewriter" as follows:

" 'Typewriter' means manually and electrically operated machines, having standard or special keyboards, designed to produce printed characters by impression of type upon paper through the medium of an inked ribbon. It includes the varityper, hektowriter, proportional spacer and portable-type machines, but does not include bookkeeping, billing, or teletype machines."

C. J. Brown  
Acting

Circular Letter 51-112 will not be printed in the Navy Department Bulletin.

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BUMED CIRCULAR LETTER 51-113

2 August 1951

From: Chief, Bureau of Medicine and Surgery  
To: All Ships and Stations

Subj: Immunization for travel to or through India, Ceylon and Pakistan; international certificates required

Ref: (a) Article 16-44, Manual of the Medical Department, U. S. Navy  
(b) BuMed C/L 50-14; Jan-Jun 1950 NDB, 50-178, p 329

1. Personnel are reported to be continually arriving at Clark Air Force Base, Manila, Philippine Islands, and Dhahran Air Force Base, Dhahran, Saudi Arabia, without proper immunization against yellow fever, and without International Certificate of Inoculation and Vaccination, PHS-731 (IHR) properly filled out.

2. Requirements of references (a) and (b) should be strictly adhered to so that transients arriving at these bases do not place undue burdens on medical departments and housing facilities during the 15-day period of waiting after immunization against yellow fever demanded by certain countries.

3. Travel into or through India and Ceylon requires the same yellow fever immunization shown in reference (b) for Pakistan. In addition, frequent local changes in above areas and in the Middle East make advisable cholera and typhus immunization prior to travel in the Middle East and Southern Asia.

4. The International Certificate of Inoculation and Vaccination, PHS-731 (IHR), is required for entry into many countries. This form should be completed and authenticated and appropriate waiting periods satisfied prior to embarkation. The International Certificate is available at district publications and printing offices.

C. J. Brown  
Acting

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BUMED CIRCULAR LETTER 51-114

6 August 1951

To: All Holders of the Bulletin of BuMed Circular Letters

Subj: Notes on Preventive Medicine for Medical Officers, United States Navy, Nos. 11 through 58 dated 1918; declassification of

Ref: (a) Art. 0425 USN Security Manual for Classified Matter, 1951

1. The necessity for retaining the original security classification of Confidential on subject documents no longer exists and, therefore, are hereby declassified.
2. Custodians of the above publications shall cause this change in classification to be indicated on the documents as directed by reference (a).

C. J. Brown  
Acting

The above letter will not be printed in the Navy Department Bulletin.

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BUMED CIRCULAR LETTER 51-117

9 August 1951

From: Chief, Bureau of Medicine and Surgery  
To: All Ships and Stations

Subj: BUMED circular letters concerning deaths; cancelation of

1. Chapter 17, entitled DEATHS, for the Manual of the Medical Department, has been printed and promulgated. The following letters concerning deaths are hereby canceled as their subjects are now covered by the indicated articles of chapter 17:

<u>BUMED Cir</u>	<u>Covered by ch 17</u>	<u>NDB issue and No.</u>
<u>Ltr No.</u>	<u>ManMedDept art.</u>	
46-105	-----17-32-----	
49-8	-----17-39-----	
49-29	-----17-73-----	Jan-Jun 1949, 49-165, p 77.
49-61	-----17-14-----	
49-114	-----17-36-----	Jul-Dec 1949, 49-661, p 114.
49-164	-----17-22-----	Jul-Dec 1949, 49-899, p 128.
51-47	-----17-76-----	15 Mar 1951, 51-169, p 14.

2. BUMED Circular Letter No. 46-182 is also canceled. Instructions concerning annual requisitions for care of the dead are promulgated yearly by the

Bureau of Supplies and Accounts to cognizant activities.

C. J. Brown  
Acting

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